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TITLE 5 POLICY ON USE OF THE B HORIZON FOR
SOIL ABSORPTION SYSTEMS FOR SYSTEM UPGRADES

Effective date: 10/27/2000

Policy #: BRP/DWM/PeP-P00-6

Program Applicability: BRP, Watershed Permitting, Title 5 Program

Approved by: Glenn Haas, Acting Assistant Commissioner, Bureau of Resource Protection

Supersedes Policy: NONE

Purpose

This policy describes circumstances in which Boards of Health and DEP staff may approve the use of the B soil horizon, also known as subsoil, as part of the four feet of naturally occurring pervious soil required for soil absorption systems. This policy applies to system upgrades only. This policy constitutes a modification of the Department's past interpretation of Title 5 relative to the use of subsoil in soil absorption systems for system upgrades.

Applicability

This policy applies to applications for Title 5 system upgrades only. The use of the B horizon is not allowed for systems that are designed to serve new construction, as "new construction" is defined in Title 5, 310 CMR 15.002.

Text

Title 5, 310 CMR 15.002, defines "impervious" material as "material having a percolation rate greater than 60 minutes per inch for reasons including, but not limited to, the presence of bedrock, schist, peat, ledge, unconsolidated material, organic matter or topsoil or subsoil." For purposes of siting a soil absorption system, 310 CMR 15.240 states that the required four feet of naturally occurring pervious soil must be free of impervious materials as defined in 310 CMR 15.002. Based on the definition of impervious material in Title 5, the Department has interpreted Title 5 as excluding the B horizon (and topsoil) from use in soil absorption systems. The Department initially interpreted Title 5 as excluding the use of the B horizon, in part, because subsoil layers in Massachusetts vary considerably in thickness,

texture and organic content. The B horizon, however, can be sufficiently permeable to be used in a soil absorption system. In addition, use of a sufficiently permeable B horizon can provide some biological treatment of the septic tank effluent. Moreover, in upgrade situations, particularly on difficult sites, removing the B horizon and then bringing in fill as part of a system upgrade can prove quite costly. And, in some cases, allowing the use of the B horizon could mean the difference between a conventional system and the need for an innovative alternative treatment system, with its associated costs.

Based on these factors, for system upgrades only and provided that the B horizon meets the conditions below, a pervious B horizon, that is, one with a percolation rate of 60 minutes per inch or less, may be considered as part of the required naturally occurring pervious material without a variance. The use of the B horizon in upgrade situations, under the conditions set forth below, is expected to provide sufficient environmental protection while, at the same time, reduce upgrade costs to system owners.

How to apply this policy

The use of the B horizon in the design of a soil absorption system may be allowed by the approving authority, without a Title 5 variance, when all of the following conditions are met:

- the design is for a system upgrade as defined in Title 5, and, therefore, there is no new construction, including, but not limited to, any increase in design flow or any change in use, proposed;
- a site evaluation, as required by 310 CMR 15.101 through 15.107, has been performed, which characterizes the B horizon and concludes that the B horizon is naturally occurring pervious material; the deep observation hole and percolation testing and the soil evaluation must be conducted in the presence of an authorized representative of the approving authority;
- if the B horizon is the most restrictive soil, then, as required by 310 CMR 15.104(2), the percolation testing has been conducted in the B horizon; and
- the proposed upgrade otherwise satisfies the requirements of Title 5 (where necessary, it may be an upgrade approved under a local upgrade approval issued pursuant to 310 CMR 15.404 and 310 CMR 15.405, or an upgrade with variances granted pursuant to 310 CMR 15.410 through 310 CMR 15.412, or it may be an upgrade in accordance with an innovative/alternative technology approval issued by the Department).

To facilitate the approving authority's review of applications for system upgrades using the B horizon under this policy, this policy must be referenced on the plans for the proposed system upgrade. Use of the B horizon, as allowed by this policy, will not alone trigger the need for a Title 5 variance or a local upgrade approval. Finally, applicants maintain the option of removing the B horizon and not using it in the system design, in which case, this policy would not apply.